U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Bunker Hill SF site ER - Removal Polrep
Initial Removal Polrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region X

Subject: **POLREP #1**
Initial
Bunker Hill SF site ER

Smelterville, ID
Latitude: 47.5469330 Longitude: -116.1645230

To: Beth Sheldrake, EPA Region 10
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Date: 2/15/2019
Reporting Period: 2/8-15/2019

1. Introduction

1.1 Background

Site Number:		**Contract Number:**	
D.O. Number:		**Action Memo Date:**	
Response Authority:	CERCLA	**Response Type:**	Emergency
Response Lead:	EPA	**Incident Category:**	Removal Action
NPL Status:	NPL	**Operable Unit:**	
Mobilization Date:	2/8/2019	**Start Date:**	2/9/2019
Demob Date:		**Completion Date:**	
CERCLIS ID:		**RCRIS ID:**	
ERNS No.:		**State Notification:**	
FPN#:		**Reimbursable Account #:**	

1.1.1 Incident Category

Emergency Response

1.1.2 Site Description

The Bunker Hill Superfund Site (Site) is located in the Coeur d'Alene Basin of Northern Idaho. The Site includes mining-contaminated areas in the Coeur d'Alene River corridor, adjacent floodplains, downstream water bodies, tributaries, and fill areas, as well as the 21-square-mile Bunker Hill "Box," where historical ore-processing and smelting operations occurred. The Site was listed on the National Priorities List (NPL) in 1983 and is assigned CERCLIS identification number IDD048340921. The Site is also known as the Coeur d'Alene Basin Cleanup. EPA has divided the Bunker Hill Superfund Site into three Operational Units (OUs); The OU 1 includes the populated areas of Bunker Hill Box and is where the current Bunker Hill Superfund Site Emergency Response (ER) is located.

1.1.2.1 Location

The location of on-site activities surrounds the Central Impoundment Area (CIA), slurry wall, I-90 subsidence zone, and the seep discharging into the Coeur d'Alene River. EPA and the Corps of Engineers recently completed construction of a subsurface groundwater cutoff wall in this same area, between the site and I-90 and the river. I-90, through this area, was constructed on top of historic mine waste. Groundwater levels are naturally high and there is a direct hydraulic connection between the site and the river. As a result, roadway subsidence and groundwater seeps are not historically uncommon. I-90 is a major east west transportation corridor through northern Idaho and is considered critical infrastructure. Within this area, an array of tasks associated with existing groundwater monitoring wells, new soil test pits, and new groundwater monitoring wells were prioritized.

1.1.2.2 Description of Threat

During EPA remedial cleanup activities which include the construction of a groundwater cutoff wall and collection system to collect and treat contaminated groundwater, a sediment seep was discovered in the South Fork of the Coeur d'Alene River in the vicinity of the cutoff wall. Additionally, over the course of a few days a subsidence had formed in Interstate 90 near the seep. EPA remedial program contractors have been investigating the source of the seep. Support from the EPA ER program was requested to provide rapid resources to identify the extent of the issue.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

Region 10 mobilized one OSC to assist the Remedial Program. START and ERRS contractors have also

been activated to support the assessment and mitigation.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

On February 8th, 2019, EPA and START mobilized to the Bunker Hill Superfund site to assist with technical support and collect data to support the seep investigation. Prior to arrival, START arranged for the local laboratory SVL Analytical Inc., to analyze collected groundwater samples on a 24-hr turn-around-time for results.

2.1.2 Response Actions to Date

Existing Groundwater Well Data Collection

EPA and START met with IDEQ and interested parties to obtain keys for the locked groundwater monitoring wells. IDEQ provided site background information and escorted START to the Site. EPA tasked START to gauge and sample specific groundwater monitoring wells.

EPA's remedial program provided a map of the Site monitoring wells. Twenty-seven wells were identified, and grouped into priority and secondary wells based on their proximity to the I-90 subsidence. START collected all water level measurements for the site wells before starting groundwater sampling activities. Water quality parameters for temperature, pH, conductivity, turbidity, oxidation reduction potential, and dissolved oxygen were taken on sampled wells. Groundwater sampling for priority wells were completed Friday, 2/8/19 through Monday, 2/11/19; second priority sampling was completed Monday, 2/11/19 and Tuesday, 2/12/19.

On Sunday, 2/10/19 START collected water level measurements from the priority, secondary, and additional wells. Fifty on-site and off-site monitoring wells were gauged. None of the additional wells were sampled for lab analysis.

START completed all first and second priority sampling on Tuesday, 2/12/19. QA/QC samples were also collected and submitted to the lab for analysis. All samples were collected and submitted to SVL within 24 hours. Ground water samples were submitted for dissolved metals, select constituents of concern, and water quality parameters.

Groundwater purge water (investigative derived waste [IDW]) was disposed of at an off-site slurry pond on the CIA on Tuesday 2/12/19 and Wednesday, 2/13/19.

New Soil Test Pit Data Collection

ERRS was mobilized on Saturday, February 2/9/19, to provide operators and equipment for subsurface investigations. ERRS excavated eight test pits, each approximately 15-20 feet deep, along the northern side of the slurry wall and bordering the central impoundment area (CIA). Due to wall stability, a trench safety box was installed in TP0, adjacent to the subsidence in I-90. A water sample (TP0) was collected and submitted to the lab for analysis. Immediately in the vicinity and approximately 300 feet apart are two additional test pits to the east (TP1E and TP2E) and one to the west (TP1W). Four additional test pits are located further to the east and are spaced approximately 1,500 feet apart (TP3E, TP4E, TP5E and TP6E). START assisted Jim Stevenoff of Jacobs (contractor for EPA's remedial program) to survey the test pits and seep. The test pits were characterized, gauged for depth to water, and GPS'd between Saturday, 2/9/19 and Wednesday 2/13/19. Additionally, test pits were logged by a START geologist to capture general geology of material type and horizons.

START collected composite samples from test pit stockpiles. One 9-point composite was collected along the perimeter and between stockpile rows. One additional composite sample exhibiting blue-gray color and clay-grain-size characteristics (potentially mine tailings) was collected throughout multiple locations in the stockpile. On Friday 2/15, soil samples were dried for XRF screening to determine baseline heavy metal concentrations and disposal waste streams. Results were lower than the Bunker Hill Priority Threat Materials (PTM) Action Levels.

Proposed Pipeline

On Wednesday, 2/13/19, START assisted Jim Stevenoff of Jacobs to walk the potential pipeline route, starting near TP01 and traveling approximately 1,750 feet to Bunker Creek to the southwest. START created a map displaying this feature in relation to the I-90 subsidence, seep, and test pits. The proposed pipeline is planned to reduce hydraulic pressure built up behind the slurry wall and divert extraction waste water to the Central Treatment Plant (CTP) facility.

New Geophysical Survey

START subcontracted with Sage Earth Sciences (Sage Earth) to perform a geophysical survey of portions of the site, including the affected lane of Interstate 90, the north and south shoulders of Interstate 90, and the area just to the north of the cutoff wall. A ground penetrating radar (GPR) survey on the interstate was performed on Thursday, 2/14/19, in conjunction with lane closures by the Idaho Department of Transportation. Asphalt repairs to I-90 were performed on Thursday, 2/14/19 in locations impacted by the subsidence. On Friday, 2/15, Sage Earth began to perform the seismic survey on the west half of the transect on the south side of the highway.

New Groundwater Well Data Collection

Based on specific criteria provided by EPA, START selected a subcontractor to install new monitoring wells to assess the groundwater around the cutoff wall, I-90, and the river. The data collected from these monitoring wells will provide needed groundwater elevations, subsurface lithology characterization, and levels of groundwater contamination to better understand the cause of the seep and subsidence.

On Wednesday 2/13/19, the driller Environmental West Exploration (Environmental West) conducted a site walk with EPA and START to determine logistics of drilling locations. Sixteen new upper aquifer (UA) and four new lower aquifer (LA) wells are currently planned.

On 2/14/19, START revised the HASP to include drilling operations, determined order of borehole

installations based on EPA and stakeholder priorities, marked the highest priority new drilling locations, arranged for emergency public utility locates, and arranged for a special-request sewer district line locate. START also reviewed existing borehole logs and determined which were closest to the new monitoring well locations.

Two Environmental West drill rigs and support equipment mobilized to the site on Thursday, 2/14/19. The crew held an initial safety and orientation briefing with START, completed on-site decontamination of the equipment, and test-positioned the first drill rig at UA-10. Based on the test-positioning, it was determined that additional mats or cribbing would be needed for the rig to clear the east-west stormwater runoff berm. Additionally, due to the cold weather, the drillers emptied water tanks to prevent overnight freezing.

On Friday, 2/15, Environmental West begin drilling at priority locations with two sonic rigs. Drilling locations AU8 and AU10 were completed, and drilling began at AU 14. All of these locations were at approximately 20 feet maximum depth. Access to AU02 and AU03 was modified by creating a road on the other side of the slurry wall. In preparation for additional drilling, utilities were identified, the slurry wall surveyed, and reconnaissance was performed of the well locations north of the freeway. ERRS began converting test pits into temporary monitoring wells.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

The Bunker Hill site is a current NPL site. Previous Known PRPs include:

Bunker Hill Mining Corporation

Placer Mining Corporation

Liberty Silver Corporation

Gulf Resources & Chemical Corporation

Pintlar Corporation

ASARCO, Inc.

Government Gulch Mining Company, Ltd,

Federal Mining and Smelting Company

Hecla Mining Company

Sunshine Mining Company

Callahan Mining Corporation

Union Pacific Railroad Company

2.1.4 Progress Metrics

2.2 Planning Section

2.2.1 Anticipated Activities

2.2.1.1 Planned Response Activities

Drilling will continue into next week with activities to include installation of new monitoring wells outside the slurry wall.

ERRS will continue to convert test pits into monitoring wells and prepare for the installation of the extraction wells and a conveyance line for the groundwater next week.

The geophysical survey will continue with electromagnetic and seismic surveys of the highway shoulder throughout the weekend and into next week.

START will continue to log the boreholes and oversee monitoring well completion.

2.2.1.2 Next Steps

2.2.2 Issues

2.3 Logistics Section

No information available at this time.

2.4 Finance Section

No information available at this time.

2.5 Other Command Staff

No information available at this time.

3. Participating Entities

3.1 Unified Command

3.2 Cooperating Agencies

USEPA
USACE
IDEQ
ITD

4. Personnel On Site

EPA
USACE
IDEQ
IDOT
START
ERRS
Jacobs
Environmental West Exploration
Sage Earth Sciences

5. Definition of Terms

No information available at this time.

6. Additional sources of information

No information available at this time.

7. Situational Reference Materials

No information available at this time.